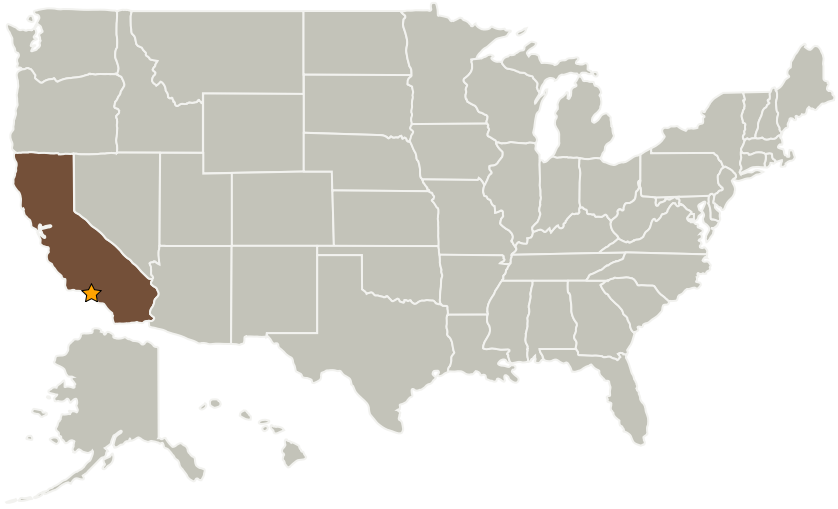
Aircraft deployable UV-SWIR multiangle spectropolarimetric imager (AirMSPI-2)

Completed Technology Project (2011 - 2015)

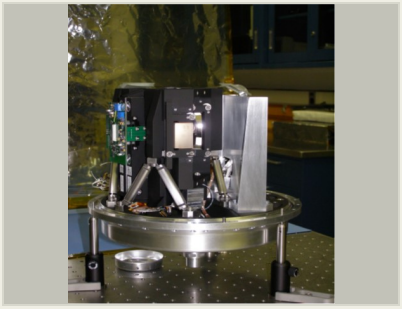
Project Introduction

The Aircraft Deployable UV-SWIR Multi-angle Spectro-polarimetric Imager (AirMSPI-2) will develop multi-line UV/VNIR/SWIR detector and read-out integrated circuit (ROIC) that operates at high speed (25 Mpix/sec), has low noise, and can meet precise synchronization requirements of a Photoelastic Modulator (PEM) based camera. The project will integrate the focal plane assembly with miniaturized spectropolarimetric filters bonded to the hybridized detector array. Partner with Teledyne Imaging Sensors to develop HgCdTe (mercury cadmium telluride) detector bump-bonded to a custom ROIC. Develop focal plane assembly to host the detector/ROIC, spectropolarimetric filters, and thermal system compatible with the camera, a gimbal, and the NASA ER-2 aircraft. Construct AirMSPI-2 by installing newly developed SWIR and UV/VNIR focal planes in the 4-mirror telescope developed under previous effort.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California
University of Arizona	Supporting Organization	Academia	Tucson, Arizona



Image

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Organizational Responsibility

Responsible Mission Directorate:

Science Mission Directorate (SMD)

Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

Responsible Program:

Earth Science

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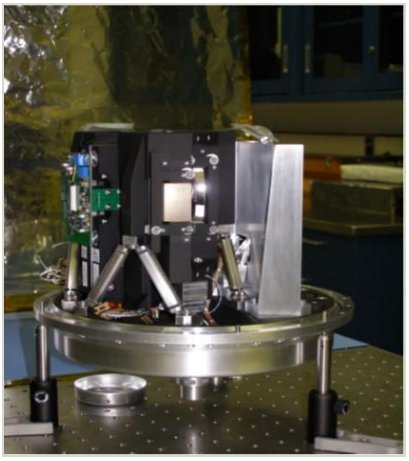
Primary U.S. Work Locations

California

Images



Aircraft deployable UV-SWIR multiangle spectropolarimetric imager Project
Image
(https://techport.nasa.gov/image/20852)

Project Management

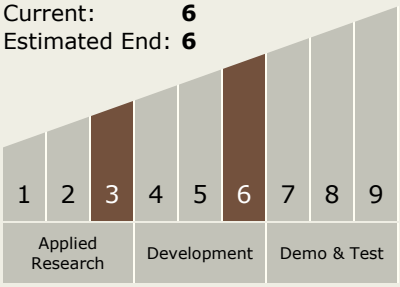
Program Director:
George J Komar

Principal Investigator:
David J Diner

Co-Investigator:
Bruce R Hancock

Technology Maturity (TRL)

Start: **3**
Current: **6**
Estimated End: **6**



Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.1 Detectors and Focal Planes

Target Destination

Earth